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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,600	03/11/2004	Juan-Pier Antonio Spampinato	005127.00270	3894
22909	7590	12/28/2005	EXAMINER	
BANNER & WITCOFF, LTD. 1001 G STREET, N.W. WASHINGTON, DC 20001-4597			BONANTO, GEORGE P	
			ART UNIT	PAPER NUMBER
			2855	

DATE MAILED: 12/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/797,600	<b>Applicant(s)</b> SPAMPINATO ET AL.	
	<b>Examiner</b> George P. Bonanto	<b>Art Unit</b> 2855	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on 22 November 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 and 34-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 and 34-38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03/11/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4 and 13 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 4 and 13 contain the limitation that “the support has a constant width in the second direction. Claims 1 and 10, however, state that the support is tapered between the leading edge and the trailing edge. These two limitations are contradictory, and the claims are, therefore, indefinite.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 18-25 stand rejected under 35 U.S.C. 102(b) as being anticipated by publication “The aerodynamics of a tennis ball,” by Mehta et al.

As to claim 18, Mehta et al. disclose a method of determining fluid properties of a game ball comprising rotating the game ball about an axis (page 181, last paragraph) inducing fluid flow around the game ball in a first direction that is orthogonal to the axis (Figs. 3 and 4) and sensing forces on the game ball in the first direction and a second direction, the second direction being orthogonal to both the first direction and the axis (measure lift and drag, page 178).

As to claim 19, Mehta et al. further disclose placing the game ball in a wind tunnel (experiments conducted in a wind tunnel, page 179).

As to claim 20, Mehta et al. further disclose securing the game ball to a testing apparatus (model bonded to a steel rod, page 180).

As to claim 21, Mehta et al further disclose that the testing apparatus has a rotating element with a first end a second end and a longitudinal axis that extends between the first end and the second end and rotatable about the longitudinal axis (page 180, first paragraph) a mount located proximal the first end of the rotating element and configured to secure to the game ball, the mount being rotatable with the rotating element about the longitudinal axis (polyurethane foam, page 180 first paragraph) and airfoil extending around the rotating element, the airfoil having a leading edge and a trailing edge (symmetrical airfoil-shaped strut, page 180 beginning second column) and a sensor that detects the forces (visual detection of forces and reaction torque cell, page 179-180).

As to claim 22, Mehta et al. further disclose placing the game ball in a wind tunnel (experiments conducted in a wind tunnel, page 179).

As to claim 23, Mehta et al. further disclose rotating a different game ball about an axis, introducing fluid flow around the different game ball and sensing forces upon the different game ball (variety of tennis balls and spheres tested, page 180 second paragraph).

As to claim 24, Mehta et al. further disclose analyzing data relating to the forces upon the game ball and the forces upon the different game ball (Figs. 7-12 and related discussion).

As to claim 25, Mehta et al. further disclose incorporating characteristics from at least one of the game ball and the different game ball into a commercially-available game ball based

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upon the data (choosing ball size and surface characteristics to achieve “slowing down the game,” page 188 second column).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, and 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,571,618 to Demay et al. in view of U.S. Patent No. 3,306,101 to Holderer, and further in view of publication “The aerodynamics of a tennis ball,” by Mehta et al.

As to claim 1, Demay et al. disclose a testing apparatus comprising a support having a leading edge and a trailing edge, the support being tapered between the leading edge and the trailing edge (streamlined casing 44, Fig. 3) and the support having a longitudinal axis that extends through a first end and a second end of the support (axis B, Fig. 1) configured to support a game ball, a mount located proximal the first end of the support (clevis 26, Fig. 4) the mount being rotatable about the longitudinal axis (col. 4, lines 3-5). Demay et al. fail, however, to disclose a sensor that detects forces upon the game ball in a first direction and a second direction.

Holderer discloses a sensor that detects forces on a test subject in a first direction and a second direction, the first direction corresponding with a direction between the leading edge and the trailing edge (drag, col. 1, line 67) and the second direction being orthogonal to both the first direction and the longitudinal axis (side force, col. 1, lines 66-67).

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It would have been obvious to one of ordinary skill in the art to use the sensor of Holderer in the testing apparatus of Demay et al. in order to measure the force components exerted on the game ball by moving air in a plurality of directions (Holderer col. 1 lines 51-70).

Demay et al. and Holderer fail to disclose a motor that rotates the mount.

Mehta et al. disclose a motor that rotates a mount (page 180, first full paragraph).

It would have been obvious to one of ordinary skill in the art to modify the testing apparatus of Demay et al., including the sensor of Holderer, by rotating the rotating element with the motor of Mehta et al. in order to allow the game ball to be rotated at a desired rate.

As to claim 2, Demay et al. further disclose that the support has an airfoil configuration between the leading edge and the trailing edge (streamlined casing 44, Fig. 3).

As to claim 3, Demay et al. further disclose that the support is tapered between the first and second end (streamlined casing 44, Fig. 3).

As to claim 4, Demay et al. further disclose that the support has a constant width in the second direction (streamlined casing 44, Fig. 3, the casing has a constant width in the second direction along a line in the direction of the axis B).

As to claim 5, Demay et al. further disclose that the support includes a rotating element that extends along substantially all of the longitudinal axis and is coupled to the mount and the motor (mast 22, Fig. 4 and col. 4, lines 3-5).

As to claim 6, Demay et al. further disclose that the mount (clevis 26, Fig. 4) is secured to the rotating element (mast 22, Fig. 4) and rotates with the rotating element (col. 4, lines 1-18).

As to claim 10, Demay et al. disclose a testing apparatus comprising a rotating element with a first end, a second end and a longitudinal axis that extends through the first end and the

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second end, the rotating element being rotatable about the longitudinal axis (mast 22, Fig. 4 and col. 4, lines 3-5) a mount located proximal the first end of the rotating element and configured to secure a game ball, the mount being rotatable with the rotating element about the longitudinal axis (clevis 26, Fig. 4 and col. 4, lines 1-18) an airfoil extending around the rotating element, the airfoil having a leading edge and a trailing edge (streamlined casing 44, Fig. 3). Demay et al. fail, however, to disclose a sensor that detects forces upon the game ball in a first direction and a second direction.

Holderer discloses a sensor that detects forces on a test subject in a first direction and a second direction, the first direction corresponding with a direction between the leading edge and the trailing edge (drag, col. 1, line 67) and the second direction being orthogonal to both the first direction and the longitudinal axis (side force, col. 1, lines 66-67).

It would have been obvious to one of ordinary skill in the art to use the sensor of Holderer in the testing apparatus of Demay et al. in order to measure the force components exerted on the game ball by moving air in a plurality of directions (Holderer col. 1 lines 51-70).

As to claim 11, Demay et al. further disclose that the airfoil has a leading edge and a trailing edge and is tapered between the leading edge and the trailing edge (streamlined casing 44, Fig. 3).

As to claim 12, Demay et al. further disclose that the airfoil is tapered in an area between the first end and the second end of the rotating element (streamlined casing 44, Fig. 3).

As to claim 13, Demay et al. further disclose that the airfoil has a constant width in the second direction (streamlined casing 44, Fig. 3, the casing has a constant width in the second direction along a line in the direction of the axis B).

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As to claim 14, Demay et al. further disclose that the mount (clevis 26, Fig. 4) is secured to the rotating element (mast 22, Fig. 4) and rotates with the rotating element (col. 4, lines 1-18).

Claims 7 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,571,618 to Demay et al. in view of U.S. Patent No. 3,306,101 to Holderer, in further view of publication "Golf Ball Aerodynamics," by Bearman et al.

Demay et al. and Holderer fail to disclose a tachometer connected to the rotating element that detects an angular velocity of the rotating element.

Bearman et al. disclose a tachometer operatively connected to a rotating element that detects an angular velocity of the rotating element (stroboscope, page 114 last paragraph).

It would have been obvious to one of ordinary skill in the art to modify the testing apparatus of Demay et al. including the sensor of Holderer by adding the tachometer of Bearman et al. in order to determine when the desired rotation rate of the game ball was reached when investigating the aerodynamics of the game ball as spin rate decays as it would in use, as well as for varying amounts of initial spin imparted by users of different skill (Bearman et al., page 112 last paragraph and Table 1).

Claims 8, 9, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,571,618 to Demay et al. in view of U.S. Patent No. 3,306,101 to Holderer, in further view of publication "The aerodynamics of a tennis ball," by Mehta et al.

As to claims 8 and 16, Demay et al. and Holderer fail to disclose a motor operatively connected to the rotating element through a gear reducer.



Mehta et al. disclose a motor operatively connected to the rotating element through a gear reducer (pulley/belt system connected to variable speed motor mounted at the end of the steel rod, page 180, first full paragraph).

It would have been obvious to one of ordinary skill in the art to modify the testing apparatus of Demay et al. including the sensor of Holderer by rotating the rotating element with the motor connected through a gear reducer of Mehta et al. in order to allow the game ball to be rotated at a desired rate.

As to claims 9 and 17, Demay et al. and Holderer fail to disclose that the mount has a concave surface with a curvature that is substantially similar to a curvature of the game ball.

Mehta et al. disclose a mount (polyurethane foam and steel rod, page 180) that has a concave surface with a curvature (rod has a concave outer surface and polyurethane foam filled ball, page 180) that is substantially similar to a curvature of the game ball (tennis ball also round, therefore similar curvature, and polyurethane fills ball to match curvature page 180).

It would have been obvious to one of ordinary skill in the art to attach the game ball to the testing apparatus of Demay et al. including the sensor of Holderer using the polyurethane foam and steel rod of Mehta et al. that conforms to the curvature of the game ball in order to provide support to the game ball and provide a secure attachment.

Claims 34 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,571,618 to Demay et al. in view of U.S. Patent No. 3,306,101 to Holderer, and further in view of U.S. Patent No. 4,501,214 to Meyer.

As to claim 34, Demay et al. disclose a testing apparatus for a game ball, the testing apparatus comprising a rotating element with a first end, a second end, and a longitudinal axis

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that extends through the first end and the second end, the rotating element being rotatable about the longitudinal axis (mast 22, Fig. 4 and col. 4, lines 3-5) a mount located proximal the first end of the rotating element and configured to secure a game ball, the mount being rotatable with the rotating element about the longitudinal axis (clevis 26, Fig. 4 and col. 4, lines 1-18) a support extending around the rotating element, the support having a leading edge and a tapered trailing edge (streamlined casing 44, Fig. 3). Demay et al. fail, however, to disclose that the leading edge is rounded and the support is a teardrop shape and fail to disclose a sensor that detects forces upon the game ball in a first direction and a second direction.

Holderer discloses a sensor that detects forces on a test subject in a first direction and a second direction, the first direction corresponding with a direction between the leading edge and the trailing edge (drag, col. 1, line 67) and the second direction being orthogonal to both the first direction and the longitudinal axis (side force, col. 1, lines 66-67).

It would have been obvious to one of ordinary skill in the art to use the sensor of Holderer in the testing apparatus of Demay et al. in order to measure the force components exerted on the game ball by moving air in a plurality of directions (Holderer col. 1 lines 51-70).

Meyer discloses a support having a rounded leading edge and a tapered trailing edge that define a teardrop shape in the support (col. 1, line 40).

It would have been obvious to one of ordinary skill in the art to modify the streamlined casing of Demay et al. by making it the tear-drop shape as taught by Meyer in order to make the support strong and light (Meyer; col. 1, lines 32-39).

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As to claim 35, Demay et al. further disclose that the mount is secured to the first end of the rotating element (clevis 26, Fig. 4 and col. 4, lines 1-18 mounted to the first end of mast 22, Fig. 4 and col. 4, lines 3-5).

Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,571,618 to Demay et al., U.S. Patent No. 3,306,101 to Holderer, and U.S. Patent No. 4,501,214 to Meyer, as applied to claim 34 above, and further in view of publication "Golf Ball Aerodynamics," by Bearman et al.

As to claim 36, Demay et al., Holderer, and Meyer fail to disclose a tachometer operatively connected to the rotating element that detects an angular velocity of the rotating element.

Bearman et al. disclose a tachometer operatively connected to a rotating element that detects an angular velocity of the rotating element (stroboscope, page 114 last paragraph).

It would have been obvious to one of ordinary skill in the art to modify the testing apparatus of Demay et al., including the sensor of Holderer and the tear-drop shaped support of Meyer, by adding the tachometer of Bearman et al. in order to determine when the desired rotation rate of the game ball was reached when investigating the aerodynamics of the game ball as spin rate decays as it would in use, as well as for varying amounts of initial spin imparted by users of different skill (Bearman et al., page 112 last paragraph and Table 1).

Claims 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,571,618 to Demay et al., U.S. Patent No. 3,306,101 to Holderer, and U.S. Patent No. 4,501,214 to Meyer, as applied to claim 34 above, and further in view of publication "The aerodynamics of a tennis ball," by Mehta et al.

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As to claim 37, Demay et al., Holderer, and Meyer fail to disclose a motor that is operatively connected to the rotating element.

Mehta et al. disclose a motor operatively connected to the rotating element (pulley/belt system connected to variable speed motor mounted at the end of the steel rod, page 180, first full paragraph).

It would have been obvious to one of ordinary skill in the art to modify the testing apparatus of Demay et al. including the sensor of Holderer by rotating the rotating element with the motor connected through a gear reducer of Mehta et al. in order to allow the game ball to be rotated at a desired rate.

As to claim 38, Demay et al., Holderer, and Meyer fail to disclose that the mount has a concave surface with a curvature that is substantially similar to a curvature of the game ball.

Mehta et al. disclose a mount (polyurethane foam and steel rod, page 180) that has a concave surface with a curvature (rod has a concave outer surface and polyurethane foam filled ball, page 180) that is substantially similar to a curvature of the game ball (tennis ball also round, therefore similar curvature, and polyurethane fills ball to match curvature page 180).

It would have been obvious to one of ordinary skill in the art to attach the game ball to the testing apparatus of Demay et al. including the sensor of Holderer using the polyurethane foam and steel rod of Mehta et al. that conforms to the curvature of the game ball in order to provide support to the game ball and provide a secure attachment.

### ***Response to Arguments***

Applicant's arguments filed Remarks have been fully considered but they are not persuasive.

In response to the rejection of claims 4 and 13 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, Applicants argue, at page 8, that because the first and second directions are clearly defined in claim one, the recitation that the support is tapered in the first direction and has a constant width in the second direction is not indefinite. This argument is not convincing, first, because the first direction is not clearly defined. Specifically a direction between the leading edge and the trailing edge includes almost any direction that lies in the plane that includes the leading and trailing edge. Second, while the second direction is clearly defined as being orthogonal to the plane including the leading and trailing edge, the phrase “has a constant width in the second direction” is nonetheless indefinite because it is susceptible to multiple different interpretations, and it is unclear which interpretation is intended. The first interpretation is that the phrase means that the support has a constant distance between the leading edge and the trailing edge in a direction in the plane including the leading and trailing edge and perpendicular to the longitudinal axis. The second interpretation is that the support has a constant distance “in the second direction” (meaning in the direction perpendicular to the plane including the leading and trailing edges). It is this second interpretation that was taken by the Examiner in the Action, and it is this interpretation that is contradictory with the recitation of claim 1 that the support is “tapered between the leading edge and the trailing edge.”

In response to the rejection of claims 1-6, and 10-14 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,571,618 to Demay et al. in view of U.S. Patent No. 3,306,101 to Holderer, Applicants have amended claims 1, 5, 12, and 13. In addition, Applicants argue, at page 9, that because Demay et al. disclose “a support device for a motorized flying

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instrument,” the reference fails to disclose “that the mount is configured to secure the game ball.” This argument is not persuasive because the claim language requires that the mount “be configured to secure the game ball.” The mount of Demay et al. is “configured to secure the game ball” because it is capable of securing the game ball.

Applicants further argue, at page 9, that Demay et al. and Holderer fail to disclose the motor of claim 1, added by amendment. This argument is not convincing because, as discussed above, Mehta et al. disclose a motor and it would have been obvious to include it.

Applicants further argue that the support of Demay et al. is for a motorized flying instrument” and that “utilizing an external source to rotate the motorized flying instrument” would render the support unsatisfactory for its intended purpose. This argument is not convincing because while it may be inappropriate to rotate a motorized flying instrument through a complete rotation of even at a high rate, the claims do not require either limitation. Furthermore, nothing about the mount of Demay et al. renders it unsuitable for use with a motor through complete rotations or rotations at high rates when used with other test subjects. Demay et al. clearly state that the mount rotates, which meets the limitation of the claim.

Applicants further argue, on page 10, that claims 2-6 and 7-9 are allowable for the same reasons as claim 1. For the reasons stated above, this argument is not convincing.

Applicants further argue, on page 11, that Demay et al. and Holderer fail to disclose an airfoil, and argue that the word airfoil “denotes a shape with the ability to control stability, direction, lift, thrust, or propulsion, for example.” This argument is not responsive because the term airfoil is not so defined by the specification. Furthermore, even assuming that Applicants asserted definition of the term “airfoil” is correct, and is required by the claims, the argument is

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not persuasive because the streamlined casing of Demay et al. meets the definition. Specifically, the streamlined shape has the ability to control stability and direction by being symmetrically (or not) aligned with a fluid flow. Similarly, the streamlined shape further has the ability to control lift or propulsion (drag) by its orientation with respect to a fluid flow. Finally, it is noted that any difference between the disclosed (and not claimed) shape of the support of the present invention has not been identified as being critical to the invention, or its benefit described in any way over the streamlined shape of the prior art.

In response to the rejection of claims 18-27, and 30-33 under 35 U.S.C. 102(b) as being anticipated by publication "The aerodynamics of a tennis ball," by Mehta et al., Applicants have cancelled claims 26-33. In addition, Applicants argue, at page 11, that Mehta et al. fail to disclose sensing forces upon the game ball in a first and second direction. Applicants have graciously invited the Examiner to "point out where Mehta teaches sensing forces in these directions." The Examiner invites Applicant to refer to the Action containing the rejection, at page 3, where the discussion of measuring both lift (a first direction) and drag (a second direction orthogonal to both the first direction and an axis of rotation) at page 178 of the reference is indicated as disclosing the limitation. Because Mehta et al. discloses the claimed limitation of sensing forces in the first and second directions, this argument is not convincing.

In response to the rejection of claims 1-33, Applicants have added new claims 34-38. Applicants further argue, at page 12, that claim 34 is allowable because it contains the limitation that the support has a teardrop shape. This argument is not convincing because, as discussed above, Meyer discloses a support with the claimed shape, and it would have been obvious to one

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of ordinary skill in the art to modify the support of Demay et al. by including the claimed shape as taught by Meyer.

*Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George P. Bonanto whose telephone number is (571) 272-2182. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GPB



**HARSHAD PATEL**  
**PRIMARY EXAMINER**